

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A fullerene-antibiotic conjugate comprising:
 - at least one targeting agent coupled to a fullerene molecule;
 - at least one linking molecule comprising a ~~malonate, a serinol, or combinations thereof;~~ and
 - at least two antibiotic molecules coupled to the fullerene molecule, wherein at least two of the at least two antibiotic molecules are coupled to the fullerene molecule via the at least one linking molecule, and wherein the at least one targeting agent is selected from the group consisting of bone-targeting moieties, bacteria-targeting moieties, sporulating microbe-targeting moieties, an antibody, and combinations thereof.
2. (Currently Amended) The fullerene-antibiotic conjugate according to claim 1, wherein the fullerene comprises C₆₀.
3. (Currently Amended) The fullerene-antibiotic conjugate according to claim 2, wherein the antibiotic comprises vancomycin.
4. (Currently Amended) The fullerene-antibiotic conjugate according to claim 2, wherein the conjugate comprises more than one linking molecule and wherein each linking molecule couples at least two antibiotic molecules to the fullerene molecule.
5. (Currently Amended) The fullerene-antibiotic conjugate according to claim 2, wherein the conjugate includes at least three antibiotic molecules per C₆₀ center, at least two of the at least three antibiotic molecules coupled to the fullerene molecule via a single linking molecule.
6. (Currently Amended) The conjugate according to claim 1, wherein the antibiotic is selected from the group consisting of penicillins, cephalosporins, quinolones, fluoroquinolones, macrolides, lincosamines, carbapenems, conobactams, aminoglycosides, glycopeptides, tetracyclines, ~~sulfonamides,~~ rifampin, oxazolidinones, and streptogramins.

7. (Currently Amended) The conjugate according to ~~claim 9~~claim 1, wherein the at least one targeting agent comprises diphosphonate.

8. (Currently Amended) The conjugate according to claim 1, wherein the at least one targeting agent is selected from the group consisting of targeting agents having at least one anthrax antigen bonding site, targeting agents derived from antibodies against anthrax, antibodies against anthrax spores, and combinations thereof.

9. (Previously Presented) The conjugate according to claim 1, wherein the at least one targeting agent comprises a bone-targeting moiety.

10. (Original) An antibiotic treatment comprising an aerosol mist comprising the fullerene-antibiotic conjugate of claim 1.

11.-22. (Canceled)

23. (Currently Amended) A pharmaceutical composition comprising:

a fullerene-antibiotic conjugate including at least one targeting agent coupled to a fullerene molecule;

at least one linking molecule comprising ~~a malonate, a serinol, or combinations thereof~~, and

at least two antibiotic molecules coupled to the fullerene molecule, wherein at least two of the at least two antibiotic molecules are coupled to the fullerene molecule via the single linking molecule, and wherein the at least one targeting agent comprises at least one selected from the group consisting of bone-targeting moieties, bacteria-targeting moieties, sporulating microbe-targeting moieties, antigen binding sites, and combinations thereof, said conjugate being present in a pharmaceutically acceptable carrier.

24.-26. (Canceled)

27. (Previously Presented) The conjugate according to claim 1, wherein said conjugate is water-soluble.

28. (Previously Presented) The pharmaceutical composition of claim 23, wherein said conjugate is water-soluble.

29. (Currently Amended) The method of claim 1, wherein the at least one linking molecule comprises a ~~malonate-serinol~~ and the targeting agent comprises diphosphonate.

30. (Currently Amended) The conjugate of claim 1 comprising eight linking molecules, wherein each linking molecule is a ~~malonate-serinol~~ group.

31. (Currently Amended) The pharmaceutical composition of claim 23, wherein the at least one linking molecule comprises a ~~malonate-serinol~~ and the targeting agent comprises diphosphonate.

32. (Currently Amended) The pharmaceutical composition of claim 23 comprising eight linking molecules, wherein each linking molecule is a ~~malonate-serinol~~ group.

33. (Currently Amended) The fullerene-antibiotic conjugate of claim 1, wherein the at least one linking molecule comprises a ~~malonate-serinol~~ and the targeting agent is a sporulating microbe-targeting moiety.

34. (Currently Amended) The fullerene-antibiotic conjugate of claim 1, wherein the sporulating microbe-targeting moiety is selected from the group consisting of targeting agents having at least one anthrax antigen bonding site, targeting agents derived from antibodies against anthrax, antibodies against anthrax spores, and combinations thereof.

35. (Currently Amended) The fullerene-antibiotic conjugate of claim 1, wherein the antibody is selected from the group consisting of antibodies against vascular endothelial growth factor,

antibodies against epidermal growth factor, antibodies against human tumor necrosis factor, antibodies against lung cancer polypeptides, and combinations thereof.

36. (New) A fullerene-antibiotic conjugate comprising:

at least one targeting agent coupled to a fullerene molecule;

at least one linking molecule comprising a malonate, a serinol, or combinations thereof; and

at least two antibiotic molecules coupled to the fullerene molecule, wherein at least two of the at least two antibiotic molecules are coupled to the fullerene molecule via the at least one linking molecule, and wherein the antibiotic is selected from the group consisting of penicillins, cephalosporins, quinolones, fluoroquinolones, macrolides, lincosamines, carbapenems, conobactams, aminoglycosides, glycopeptides, tetracyclines, rifampin, oxazolidinones, and streptogramins.

37. (New) A fullerene-vancomycin conjugate comprising:

at least one targeting agent coupled to a fullerene molecule;

at least one linking molecule comprising a malonate, a serinol, or combinations thereof; and

at least two vancomycin molecules coupled to the fullerene molecule, wherein at least two of the at least two vancomycin molecules are coupled to the fullerene molecule via the at least one linking molecule, and wherein the at least one targeting agent is selected from the group consisting of bone-targeting moieties, bacteria-targeting moieties, sporulating microbe-targeting moieties, an antibody, and combinations thereof.

38. (New) The fullerene-vancomycin conjugate according to claim 36, wherein the fullerene comprises C₆₀.

39. (New) The fullerene-vancomycin conjugate according to claim 36, wherein the conjugate comprises more than one linking molecule and wherein each linking molecule couples at least two vancomycin molecules to the fullerene molecule.

40. (New) The fullerene-vancomycin conjugate according to claim 36, wherein the at least one targeting agent comprises diphosphonate.

41. (New) The conjugate according to claim 36, wherein the at least one targeting agent is selected from the group consisting of targeting agents having at least one anthrax antigen bonding site, targeting agents derived from antibodies against anthrax, antibodies against anthrax spores, and combinations thereof.

42. (New) The conjugate according to claim 36, wherein the at least one targeting agent comprises a bone-targeting moiety.

43. (New) The conjugate according to claim 36, wherein said conjugate is water-soluble.